

page 4, section 5 of the Office Action. The Office Action then states that Silverbrook does not disclose a medical fluid. See page 4, section 5 of the Office Action. However, the Office Action states that Sheridan remedies the deficiencies of Silverbrook. See page 4, section 5 of the Office Action. Therefore, Applicant believes that the indication of Hawkins is in error and traverses the rejection under §103(a) over Silverbrook in view of Sheridan.

Silverbrook does not disclose, teach or suggest an ejector including "a plurality of ejection structures associated with the ejector nozzle and arranged to individually move in the chamber such that a variable volume of fluid is ejected from the associated ejector nozzle," as recited in independent claim 1, and similarly set forth in independent claim 12.

The Office Action appears to assert that structures 31.1,31.2 of Silverbrook correspond to a plurality of ejection structures. See page 3, section 2 of the Office Action. Notwithstanding this assertion, the shutters 31.1,31.2 of Silverbrook do not correspond to "ejection structures" arranged to individually move in the chamber such that a variable volume of fluid is ejected from an associated ejector nozzle, as recited in claims 1 and 12.

Silverbrook teaches, in Figs. 17-20, a printhead including two arrangements of nozzles 10.1,10.2. Each nozzle arrangement 10.1,10.2 includes an ink ejection port 30.1,30.2, and a chamber 58.1,58.2 in which the associated shutter 31.1,31.2 is arranged. See Figs. 17-20, and col. 10, lines 1-6. Silverbrook also teaches that each chamber 58.1,58.2 is connected via a respective ink supply channel 36.1,36.2 to a common ink reservoir 60 in which a piezoelectric transducer 62 is arranged. See Figs. 17-20, and col. 10, lines 7-10.

As shown in Fig. 17, the shutter 31.2 is in an opened position and shutter 31.1 is a closed position. When the transducer 62 is displaced in the direction of arrow 66, positive pressure is imparted and ink 57 bulges out of the ink ejection port 30.2 associated with the opened shutter 31.2 to form a meniscus 68. See Fig. 17 and col. 10, lines 23-26. After a

predetermined interval, the transducer 62 reverses in a direction 70 to impart negative pressure causing necking at 72 to separate an ink drop 64. See Fig. 18 and col. 10, lines 29-33.

Although Silverbrook teaches that the shutters 31.1,31.2 can be positioned between an opened position and a closed position to vary the volume of an ejected ink drop, the ejection of ink is caused by the movement of the transducer 62. See col. 9, lines 47-52. Therefore, Silverbrook discloses only a single transducer 62, i.e., a single movable ejection structure. Because Silverbrook does not teach or suggest that the movement of the shutters 31.1,31.2 causes the ejection of ink from the associated ink ejection port 30.1,30.2, the shutters 31.1,31.2 of Silverbrook cannot reasonably be considered to be ejection structures arranged to individually move in the chamber such that a variable volume of fluid is ejected from the associated ejector nozzle 10.1,10.2. Therefore, Silverbrook does not teach or suggest the ejector of claim 1 or the method of claim 12.

Sheridan does not remedy the deficiencies of Silverbrook discussed above. Specifically, Sheridan does not teach or suggest a plurality of ejection structures associated with an ejector nozzle and arranged to individually move in a chamber such that a variable volume of fluid is ejected from the associated ejector nozzle. Therefore, Silverbrook and Sheridan do not, alone or in permissible combination, teach or suggest the ejector of claim 1 and the method of claim 12.

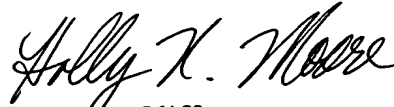
For at least the reasons discussed above, claims 1 and 12 are patentable over Silverbrook and Sheridan, alone or in permissible combination. Claims 2-11 and 13-20 variously depend from claims 1 and 12, and thus also are patentable over Silverbrook and Sheridan, alone or in permissible combination, for at least the reasons set forth above, as well as for the additional features they recite.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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